

Docket No.: UC 0406 USCIP  
 Application No.: 10/774,285  
 Office Action Dated: May 15, 2006

PATENT

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

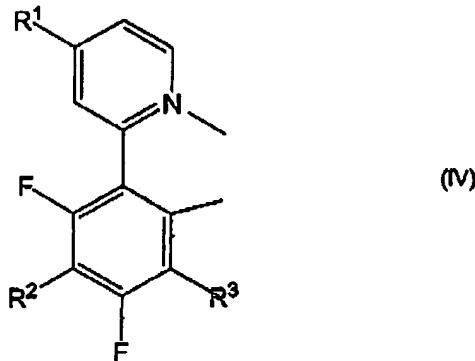
1. (Currently Amended) An active layer comprising at least one compound having a formula selected from Formula I, Formula II, and Formula III:

|   |       |
|---|-------|
| Pt(L <sup>4</sup> ) <sub>2</sub>                | (I)   |
| PtL <sup>1</sup> L <sup>2</sup>                 | (II)  |
| Pt L <sup>1</sup> L <sup>3</sup> L <sup>4</sup> | (III) |

where:

in Formulae I, II, and III:

L<sup>1</sup> has Formula IV:



wherein:

R<sup>1</sup> = H, R<sup>4</sup>, OR<sup>4</sup>, N(R<sup>4</sup>)<sub>2</sub>

R<sup>2</sup> = H, C<sub>n</sub>F<sub>2n+1</sub>, C<sub>n</sub>F<sub>2n+1</sub>SO<sub>2</sub>, COOR<sup>4</sup>, CN

R<sup>3</sup> = H, C<sub>n</sub>F<sub>2n+1</sub>, C<sub>n</sub>F<sub>2n+1</sub>SO<sub>2</sub>, COOR<sup>4</sup>, CN,

R<sup>4</sup> is the same or different at each occurrence and is H, alkyl, aryl, or adjacent R<sup>4</sup> groups can join together to form a 5- or 6-membered ring, and

n is an integer from 1 through 20;

in Formula II:

L<sup>2</sup> is a ~~monoanionic bidentate ligand phosphino alkoxide~~;

in Formula III:

L<sup>3</sup> is a monoanionic monodentate ligand; and

L<sup>4</sup> is a nonionic monodentate ligand.

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2. (Currently Amended) The active layer of Claim 1, wherein R<sup>12</sup>R<sup>2</sup> and R<sup>13</sup>R<sup>3</sup> are independently selected from H, CF<sub>3</sub>, C<sub>2</sub>F<sub>5</sub>, n-C<sub>3</sub>F<sub>7</sub>, i-C<sub>3</sub>F<sub>7</sub>, C<sub>4</sub>F<sub>9</sub>, CF<sub>3</sub>SO<sub>2</sub>, COOR<sup>14</sup> COOR<sup>4</sup> and CN.

3. (Canceled)

4. (Currently Amended) The active layer of Claim 1, wherein the compound has Formula # III and L<sup>3</sup> is a hydride.

5. (Currently Amended) The active layer of Claim 1, wherein L<sup>1</sup> is selected from ligand 1-a through 1-y as shown in Table 5:

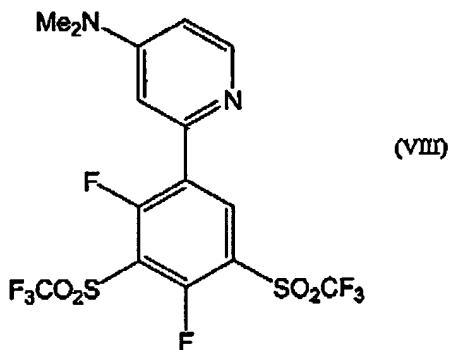
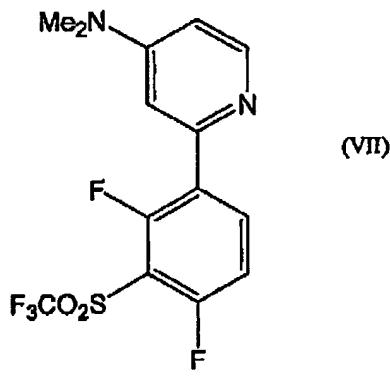
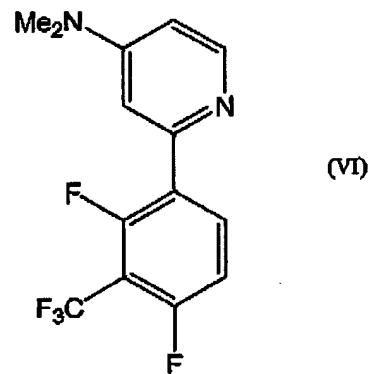
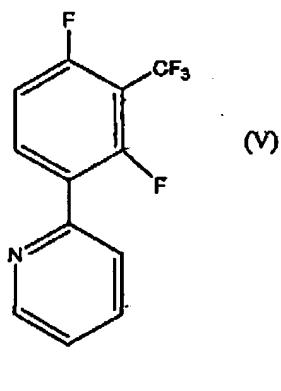
| Ligand | R <sup>1</sup>   | R <sup>2</sup>                  | R <sup>3</sup>  |
|--------|------------------|---------------------------------|-----------------|
| 1-a    | H                | H                               | H               |
| 1-b    | H                | CF <sub>3</sub>                 | H               |
| 1-c    | H                | COOMe                           | H               |
| 1-d    | H                | CN                              | H               |
| 1-e    | CH <sub>3</sub>  | H                               | H               |
| 1-f    | CH <sub>3</sub>  | CF <sub>3</sub>                 | H               |
| 1-g    | CH <sub>3</sub>  | COOMe                           | H               |
| 1-h    | CH <sub>3</sub>  | CN                              | H               |
| 1-i    | CH <sub>3</sub>  | H                               | H               |
| 1-j    | t-butyl          | H                               | H               |
| 1-k    | OMe              | CF <sub>3</sub>                 | H               |
| 1-l    | OMe              | COOMe                           | H               |
| 1-m    | OMe              | CN                              | H               |
| 1-n    | OMe              | CF <sub>3</sub>                 | CF <sub>3</sub> |
| 1-o    | NMe <sub>2</sub> | H                               | H               |
| 1-p    | NMe <sub>2</sub> | CF <sub>3</sub>                 | H               |
| 1-q    | NMe <sub>2</sub> | COOMe                           | H               |
| 1-r    | NMe <sub>2</sub> | CN                              | H               |
| 1-s    | NMe <sub>2</sub> | CF <sub>3</sub> SO <sub>2</sub> | H               |
| 1-t    | NMe <sub>2</sub> | C <sub>2</sub> F <sub>5</sub>   | H               |

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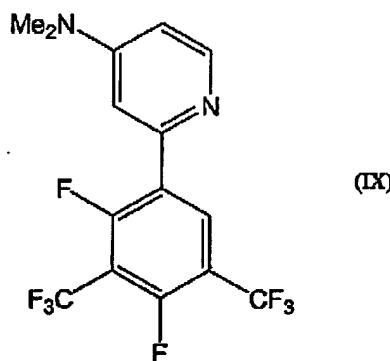
| <u>Ligand</u> | <u>R<sup>1</sup></u>   | <u>R<sup>2</sup></u>                  | <u>R<sup>3</sup></u> |
|---------------|------------------------|---------------------------------------|----------------------|
| <u>1-u</u>    | <u>NMe<sub>2</sub></u> | <u>CF(CF<sub>3</sub>)<sub>2</sub></u> | <u>H</u>             |
| <u>1-v</u>    | <u>NMe<sub>2</sub></u> | <u>H</u>                              | <u>H</u>             |
| <u>1-w</u>    | <u>NPh<sub>2</sub></u> | <u>CF<sub>3</sub></u>                 | <u>H</u>             |
| <u>1-x</u>    | <u>NPh<sub>2</sub></u> | <u>COOMe</u>                          | <u>H</u>             |
| <u>1-y</u>    | <u>NPh<sub>2</sub></u> | <u>CN</u>                             | <u>H</u>             |

6. (Currently Amended) The active layer of Claim 1, wherein L<sup>1</sup> is selected from Formula V, Formula VI, Formula VII, Formula VIII, and Formula IX:



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7. (Original) An organic electronic device comprising at least one active layer of Claim 1.

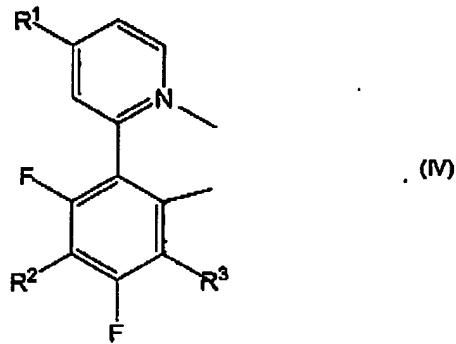
8. (Currently Amended) A compound having a formula selected from Formula I, Formula II, and Formula III:

|                                     |       |
|-------------------------------------|-------|
| $\text{Pt}(\text{L}^1)^2$           | (I)   |
| $\text{PtL}^1\text{L}^2$            | (II)  |
| $\text{Pt L}^1\text{L}^3\text{L}^4$ | (III) |

where:

in Formulae I, II, and III:

$\text{L}^1$  has Formula IV:



wherein:

$\text{R}^1 = \text{H}, \text{R}^4, \text{OR}^4, \text{N}(\text{R}^4)_2$

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$R^2 = H, C_nF_{2n+1}, C_nF_{2n+1}SO_2, COOR^4, CN$

$R^3 = H, C_nF_{2n+1}, C_nF_{2n+1}SO_2, COOR^4, CN,$

$R^4$  is the same or different at each occurrence and is H, alkyl, aryl, or adjacent  $R^4$  groups can join together to form a 5- or 6-membered ring, and

n is an integer from 1 through 20;

in Formula II:

$L^2$  is a monoanionic bidentate ligand phosphino alkoxide;

in Formula III:

$L^3$  is a monoanionic monodentate ligand; and

$L^4$  is a nonionic monodentate ligand.

9. (Currently Amended) The compound of Claim 8, wherein  $L^1$  is selected from ligands 1-a through 1-y, as shown in Table 1:

| Ligand | $R^1$                  | $R^2$                               | $R^3$                 |
|--------|------------------------|-------------------------------------|-----------------------|
| 1-a    | H                      | H                                   | H                     |
| 1-b    | H                      | <u>CF<sub>3</sub></u>               | H                     |
| 1-c    | H                      | <u>COOMe</u>                        | H                     |
| 1-d    | H                      | <u>CN</u>                           | H                     |
| 1-e    | <u>CH<sub>3</sub></u>  | H                                   | H                     |
| 1-f    | <u>CH<sub>3</sub></u>  | <u>CF<sub>3</sub></u>               | H                     |
| 1-g    | <u>CH<sub>3</sub></u>  | <u>COOMe</u>                        | H                     |
| 1-h    | <u>CH<sub>3</sub></u>  | <u>CN</u>                           | H                     |
| 1-i    | <u>CH<sub>3</sub></u>  | H                                   | H                     |
| 1-j    | <u>t-butyl</u>         | H                                   | H                     |
| 1-k    | <u>OMe</u>             | <u>CF<sub>3</sub></u>               | H                     |
| 1-l    | <u>OMe</u>             | <u>COOMe</u>                        | H                     |
| 1-m    | <u>OMe</u>             | <u>CN</u>                           | H                     |
| 1-n    | <u>OMe</u>             | <u>CF<sub>3</sub></u>               | <u>CF<sub>3</sub></u> |
| 1-o    | <u>NMe<sub>2</sub></u> | H                                   | H                     |
| 1-p    | <u>NMe<sub>2</sub></u> | <u>CF<sub>3</sub></u>               | H                     |
| 1-q    | <u>NMe<sub>2</sub></u> | <u>COOMe</u>                        | H                     |
| 1-r    | <u>NMe<sub>2</sub></u> | <u>CN</u>                           | H                     |
| 1-s    | <u>NMe<sub>2</sub></u> | <u>CF<sub>3</sub>SO<sub>2</sub></u> | H                     |

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| Ligand     | <u>R</u> <sup>1</sup>   | <u>R</u> <sup>2</sup>                  | <u>R</u> <sup>3</sup> |
|------------|-------------------------|--|-----------------------|
| <u>1-t</u> | <u>NMe</u> <sub>2</sub> | <u>C</u> <sub>2</sub> F <sub>5</sub>   | H                     |
| <u>1-u</u> | <u>NMe</u> <sub>2</sub> | <u>CF(CF<sub>3</sub>)</u> <sub>2</sub> | H                     |
| <u>1-v</u> | <u>NMe</u> <sub>2</sub> | H                                      | H                     |
| <u>1-w</u> | <u>NPh</u> <sub>2</sub> | <u>CF</u> <sub>3</sub>                 | H                     |
| <u>1-x</u> | <u>NPh</u> <sub>2</sub> | <u>COOMe</u>                           | H                     |
| <u>1-y</u> | <u>NPh</u> <sub>2</sub> | <u>CN</u>                              | H                     |

10. (Currently Amended) A compound of Claim 8, wherein R<sup>2</sup> and R<sup>3</sup> are independently selected from H, CF<sub>3</sub>, C<sub>2</sub>G<sub>5</sub>, C<sub>2</sub>F<sub>5</sub>, n-C<sub>3</sub>C<sub>7</sub>, i-C<sub>3</sub>F<sub>7</sub>, C<sub>4</sub>G<sub>8</sub>C<sub>4</sub>F<sub>9</sub>, CF<sub>3</sub>SO<sub>2</sub>, COOR<sup>4</sup>, COOR<sup>4</sup> and CN.

11. (Canceled)

12. (Original) A compound of Claim 8, wherein the compound has Formula III and L<sup>3</sup> is a hydride.

13. (Canceled)

14. (Original) An organic electronic device comprising a layer that comprises the compound of Claim 8.

15. (Original) An organic electronic device comprising a layer that comprises the compound of Claim 9.

16. (Original) An organic electronic device comprising a layer that comprises the compound of Claim 10.

17. (Canceled)

18. (Original) An organic electronic device comprising a layer that comprises the compound of Claim 12.

19. (Canceled)

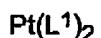
20. (Original) An active layer of claim 1 further comprising a diluent.

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21. (Original) An active layer of claim 20 wherein the diluent further comprises a material selected from a polymer, a small molecule, and a mixture thereof.

22. (New) An active layer comprising at least one compound having Formula I



(I)

wherein  $\text{L}^1$  is selected from Formula VII and Formula VIII:

